

# BUREAU OF WATER

South Carolina Department of Health and Environmental Control

## 2004 SHELLFISH GROWING AREA STATUS REPORT

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Includes Classification Trends for Report  
Years 1986 through 2004

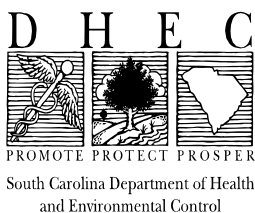
### Shellfish Sanitation Program

Water Monitoring, Assessment and Protection Division  
Environmental Quality Control - Bureau of Water  
2600 Bull Street  
Columbia, South Carolina 29201

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**WEB ADDRESS:**

<http://www.scdhec.net/water/html/shellfish.html#reports>



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**Including Classification Trends for Report Years 1986 through 2004**

**December, 2004**

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**South Carolina Department of Health and Environmental Control  
Shellfish Sanitation Program**

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## EXECUTIVE SUMMARY

The South Carolina Department of Health and Environmental Control is responsible for the classification of approximately 571,040 acres of estuarine and riverine habitat that has the potential to be utilized for the cultivation and harvest of molluscan bivalve shellfish. These classifications are implemented through S.C. Regulation 61-47, Shellfish, which was promulgated for the purpose of public health protection. Waters used for shellfish cultivation and harvest activities are maintained and protected under the standards established under Regulation 61-68, Water Classifications and Standards.

Review of data used to prepare the 2004 annual shellfish reports (collected 2001-2003) indicate a slight decrease in *Approved* area and *Prohibited* area classifications above that of the previous year's report. Concomitantly, *Conditionally Approved* and *Restricted* area classifications exhibited slight acreage decreases from the 2003 report.

A review of data for report years 1986 – 2004 indicates overall stability within all classification types over the entire period, although upward and downward oscillations routinely occur on a yearly basis. These classification oscillations can often be directly associated with precipitation patterns.

## INTRODUCTION

South Carolina has approximately 571,011 acres of estuarine and riverine growing area habitat suitable for the cultivation and harvest of molluscan shellfish. Shellfish growing areas are assigned water quality classifications for the primary purpose of public health protection. The South Carolina Department of Health and Environmental Control (DHEC) establishes these classifications based upon the quality of the overlying water within the growing areas. The purpose of this document is to provide an overview of the current classifications of these areas, as well as classification trends for the period 1986 to 2004. Additionally, a brief overview of the regulations used to establish these classifications is provided.

## BACKGROUND

DHEC annually updates the acreage potentially available for molluscan bivalve shellfish harvesting and makes data available through growing Area sanitary survey reports. Prior to 1996, growing Area acreages were calculated utilizing a hand held planimeter and National Oceanic and Atmospheric Administration (NOAA) Mercator Projection Charts at 1:80,000 and 1:40,000 scales. Since Report Year 1996, acreages have been computer generated utilizing data digitized from 1:24,000 National Wetlands Inventory quadrangles. The computer generated acreage excludes approximately 60,000 acres of habitat that were included in the past estimates and which were determined to be physically unsuitable for shellfish propagation. The current GIS methodology is vastly

superior to the planimetry method and more accurately reflects actual habitat acreage. Classified acreage described in this document is based on data derived through implementation of the Shellfish Sanitation Program's ambient monitoring network. The growing Area water quality monitoring strategy adheres to guidelines established by the United States Food and Drug Administration's National Shellfish Sanitation Program (NSSP) and South Carolina Regulation 61-47. Classifications are developed from the Shellfish Sanitation Program water quality management areas databases. Statewide shellfish growing area totals during the period 1997-2000 fluctuated slightly due to several growing area boundary modifications, however, these data have been rectified. Additionally, extremely small differences in acreage totals may result from year-to-year due to technical issues (e.g. < 0.01% from 2001-2004).

## CLASSIFICATION SYSTEM

### Regulation 61-47, Shellfish - Growing Area Survey and Classification

Regulation 61-47, Shellfish, provides shellfish harvesting classifications which are used to protect public health by ensuring that shellfish are harvested from areas that have acceptable water quality, and that meet the requirements of the NSSP. South Carolina currently classifies 571,040 acres of growing area habitat within 25 Shellfish Management Areas. Acreage classified as *Approved*, *Conditionally Approved*, *Restricted*, or *Conditionally Restricted* is designated by the Department as having a potential for existing use for shellfish harvest.

#### **Classification Designations**

***Approved Area*** - State waters that have been approved by the Department for harvesting shellfish for direct marketing or human consumption.

***Conditionally Approved Area*** - waters that meet *Approved* area criteria under specified environmental conditions and time periods established by the Department. The conditions and time periods are based upon established standards specified in a management plan.

***Restricted Area*** - waters that have been classified by the Department as *Restricted* and where harvesting for direct marketing is not allowed. Shellfish may be harvested from *Restricted* areas only by special permit.

***Conditionally Restricted Area*** - waters that meet *Restricted* area criteria under specified environmental conditions and time periods established by the department. The conditions and time periods are based upon established standards for potential pollution sources specified in a management plan. This classification varies from the *Restricted* classification in that it is based on predictable events.

***Prohibited Area*** - waters that have been classified by the Department as *Prohibited* for the harvesting of shellfish for any purpose related to human consumption. A *Prohibited* area is a closed area. Administrative closures are implemented adjacent to permitted wastewater discharges and marina facilities.

## RESTORATION EFFORTS

In 1995 DHEC entered into a Memorandum Of Agreement (MOA) with the South Carolina Department of Natural Resources (SCDNR). The agreement was entered into for the purpose of establishing cooperative procedures and actions for classification and management of molluscan shellfish growing waters and resources and for the restoration of shellfish growing waters closed to harvesting for public health reasons. This effort would satisfy the goals outlined in Regulation 61-68 regarding maintenance and improvement of classified waters and would further the concept of shellfish harvest restoration as established by the Interstate Shellfish Sanitation Conference (ISSC) of which South Carolina is a member, represented by the Department. A portion of the MOA required development of a listing for all coastal Areas not having an *Approved* classification for the harvest of shellfish. This list is updated annually, provided to SCDNR for prioritization for resource restoration purposes, and submitted to the United States Environmental Protection Agency in partial fulfillment of SCDHEC's reporting requirements under the Federal Clean Water Act (303d).

## TREND DATA

A review of Shellfish Program classification data for the 1986 through 2004 annual shellfish reports (data through 2003) indicates stability in terms of acreage within individual classification types. For the 2004 report year, a moderate acreage decrease from 2003 levels in the *Approved* classification was observed. A similar decrease in the *Prohibited* classification category was also observed. Conversely, a moderate increase in *Restricted* classification acreage was observed. Additionally, slight increase in *Conditionally Approved* classification acreage was observed.

For the period 1986 - 2004, percentage of *Approved* classification acreage ranges from a low of 64.1% in report year 2000, to a high of 70.2 % in report year 2003, with the present 3-year review period representing 69.6% of total classified acreage. Please note that the lowest percentage of *Approved* acreage during 1986 - 2004 occurs in the 2000 report, which utilizes data from the 3-year period ending December 31, 1999. 1997 - 1998 is a documented *El Niño* wet weather period.

*Restricted* classification acreage ranges from 15.4% in 2003 to 20.2% in 2000, with a present review period level of 16.6%. These changes typically result from rainfall increases, although, for this review period, approximately 50% of the acreage increase is attributed to removal of a wastewater facility point source discharge. The subsequent

reclassification to *Restricted* establishes a level of stream class protection for the area which was not available under the *Prohibited* classification.

*Conditionally Approved* classification acreage ranges from a low of 0.2% in 1992 and 1994 to a high of 3.5% in 1986. The 2004 level of 1.4% is substantially equivalent to the 2003 level, although annual size modification in individual Conditionally Approved areas typically occurs.

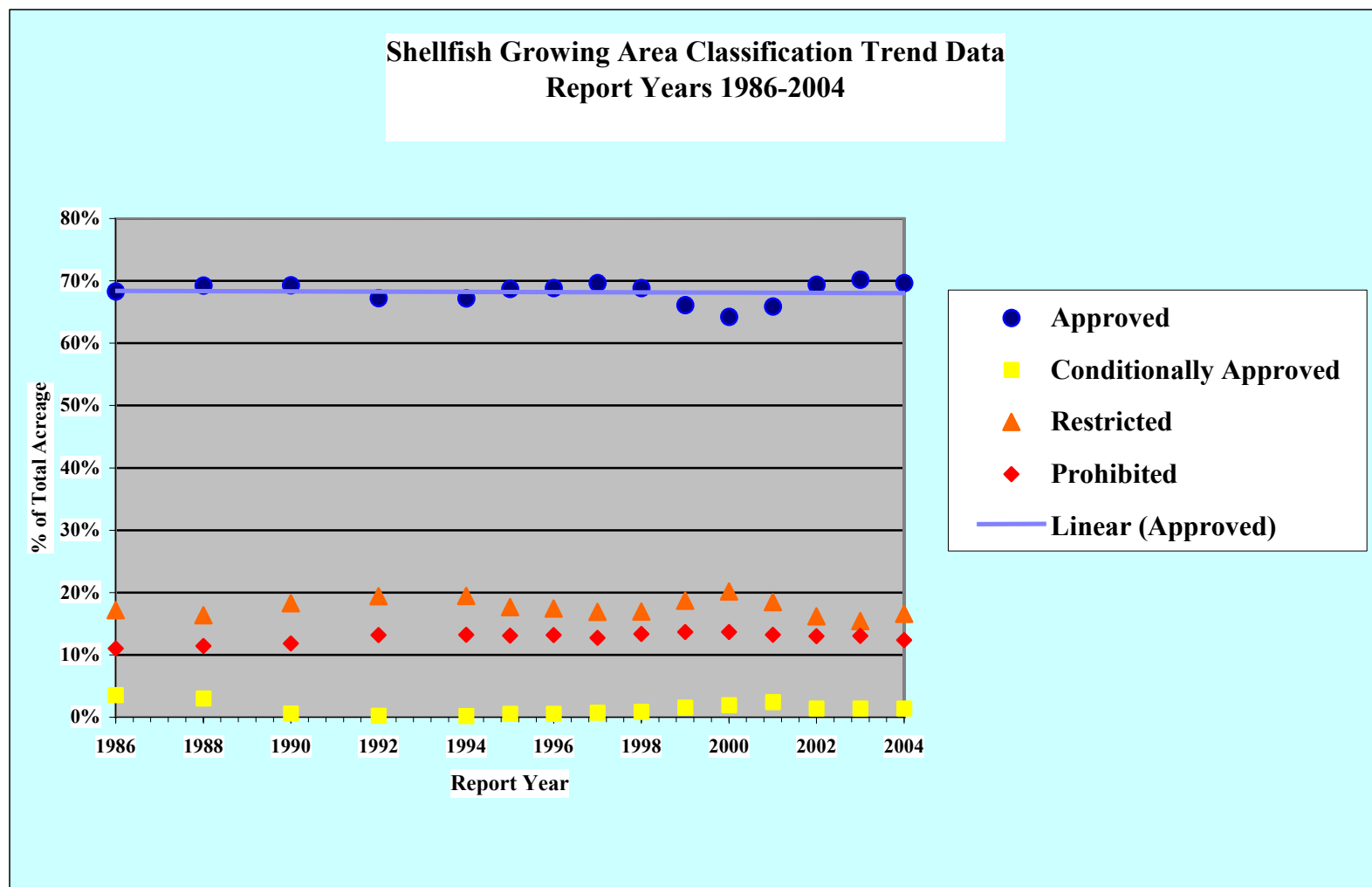
*Prohibited* classification acreage ranges from a low of 11.0% during 1986 to a high of 13.7% in 1999. The 2004 level of 12.4% indicates a slight decrease in administratively closed acreage from that of the prior report year, due primarily to the removal of a wastewater treatment facility discharge on the Stono River.

## CONCLUSIONS

Data review indicates relative stability within all classification types throughout the 1986-2004 trend review period. Slight variations occur from year to year within all classification types. Variations in the *Approved* and *Restricted* classifications are typically affected by SE United States precipitation patterns, although, for this review period, approximately 50% of the net increase in Restricted waters is due to the removal of a wastewater treatment facility discharge.



Figure 1



## Shellfish Growing Area Acreage By Classification Type

	1986	1988	1990	1992	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<i>Approved</i>	433817	437763	437982	424750	424228	392,242	393,039	397,708	393,064	377,486	366,795	376,309	396,090	400,706	397589
<i>Conditionally Approved</i>	22363	18970	3704	1352	1107	3,192	3,192	4,096	4,811	8,712	11,089	13,827	7,964	7,860	8001
<i>Restricted</i>	108896	103309	115635	122549	122849	100,759	99,608	96,476	96,853	106,772	115,218	105,435	92,522	87,971	94678
<i>Prohibited</i>	70077	72231	74945	83205	83405	74,847	75,200	72,760	76,313	78,069	77,937	75,469	74,433	74,473	70744
Total	635,153	632,273	632,266	631,856	631,589	571,040	571,039	571,040	571,041	571,039	571,039	571,040	571,009	571,010	571,012

Table 1

## Shellfish Growing Area Acreage By Classification Type as Percent of Total

	1986	1988	1990	1992	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
<i>Approved</i>	68.3%	69.2%	69.3%	67.2%	67.2%	68.7%	68.8%	69.6%	68.8%	66.1%	64.2%	65.9%	69.4%	70.2%	69.6%
<i>Conditionally Approved</i>	3.5%	3.0%	0.6%	0.2%	0.2%	0.6%	0.6%	0.7%	0.8%	1.5%	1.9%	2.4%	1.4%	1.4%	1.4%
<i>Restricted</i>	17.1%	16.3%	18.3%	19.4%	19.5%	17.6%	17.4%	16.9%	17.0%	18.7%	20.2%	18.5%	16.2%	15.4%	16.6%
<i>Prohibited</i>	11.0%	11.4%	11.9%	13.2%	13.2%	13.1%	13.2%	12.7%	13.4%	13.7%	13.6%	13.2%	13.0%	13.0%	12.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 2